

## REMARKS

Claims 66-96 are pending. Claim 80 has been amended. No new matter has been added by this amendment. Applicants thank the Examiner for his acknowledgment of the amendments and information disclosure statement filed on December 16, 2004. Likewise, Applicants thank the Examiner for his acknowledgement of papers submitted under 35 U.S.C. §119.

### I. Rejection under 35 U.S.C. §103(a) over Lee in view of Fujiwara

Claims 66-86 and 95-96 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Lee (U.S. Patent No. 5,350,715) in view of Fujiwara *et al.* (U.S. Patent No. 5,238,810). This rejection is traversed for at least the following reasons.

The Office Action acknowledges that Lee “fails to disclose a thickness of 0.1 to 5.0 micrometers, a width of 0.5 to 50 micrometers and length of 0.5 to 50 micrometers.” Office Action mailed March 24, 2005 at page 3. Nonetheless, the Office Action asserts that “[i]n view of Fujiwara *et al.*’s teachings, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to further modify the teachings of Lee with extra small particles....” *Id.* Applicants respectfully disagree with this assertion.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants respectfully submit that none of these three criteria have been met in order to establish a *prima facie* case of obviousness. With apparent reference to the first criterion, the Office asserts that “in view of Fujiwara *et al.*’s teachings, it would have been obvious... to further modify the teachings of Lee with extra small particles....” Office Action mailed March

24, 2005 at page 3. However, no suggestion or motivation to combine Lee with Fujiwara is apparent in either of the references. Moreover, the Office has not pointed to any motivation that might that have led a skilled artisan to combine Lee with Fujiwara.

To the contrary, Applicants respectfully submit that Fujiwara is a non-analogous reference for which no motivation to combine would have existed. Indeed, Applicants note that “[i]n order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant’s endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.” *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Applicants’ endeavor relates, *inter alia*, to “[a] microparticle ... wherein the microparticle is marked with digitally-coded machine-readable information, the machine-readable information being etched through the microparticle as a pattern of holes.” *See e.g.*, Claim 66. By contrast, Fujiwara relates to “[a] laser magnetic immunoassay method utilizing an antigen-antibody reaction and apparatus thereof.” *See e.g.*, Fujiwara at Technical Field. As such, Applicants respectfully submit that Fujiwara is a non-analogous reference, which is improperly relied upon and which the skilled artisan would have had no motivation to combine.

In order to establish a *prima facie* case of obviousness, the law also provides that there must be a reasonable expectation of success. In this case, the combination of Lee with Fujiwara provides no such reasonable expectation. Although the Office suggests that “... it would be obvious to modify the teaches of Lee with extra small particles...”, Applicants respectfully disagree. In fact, the “semiconductor devices” of Lee are not amenable to being shrunk to a thickness of “from 0.1  $\mu\text{m}$  to 5  $\mu\text{m}$ ” as specified by the Office and recited in Claim 66. Accordingly, one of skill in the art could have had no reasonable expectation of success in arriving at Applicants’ claimed invention by combining Lee with Fujiwara.

Moreover, in accordance with the third criterion, Applicants respectfully submit that Lee and Fujiwara, when combined, fail to teach or suggest all of the claim limitations. Whatever else Lee and Fujiwara together teach, they do not teach a microparticle, which is in the form of a wafer whose thickness is from 0.1  $\mu\text{m}$  to 5  $\mu\text{m}$ , wherein the microparticle is marked with digitally-coded machine-readable information, the machine-readable information being etched through the microparticle as a pattern of holes.

The Office alleges that “Lee teaches chip identification scheme, which includes a microparticle or micro-label.” Office Action mailed March 24, 2005 at page 2. Applicants respectfully disagree. Lee recites “...a plurality of individual semiconductor chips on a common semiconductor wafer with an identification mark which is representative of the location of the respective chip on the semiconductor wafer.” In addition, Lee states that “the “identification code formed in each semiconductor chip ... preferably occupies only a relatively small area, e.g., a peripheral or marginal area of 50μX50μ, of the chip.” Based on the disclosure of Lee, Applicants respectfully point out that Lee does not teach or suggest that the micro-label is in the form of a particle. Likewise, Lee does not teach or suggest that the chip itself is a microparticle. In fact, the thickness of a typical semiconductor chip could range, for example, from one to multiple orders of magnitude greater than the thickness of Applicants’ microparticles as recited in the presently pending claims. As such, whatever else Lee may teach or suggest, it does not teach or suggest “a microparticle” in accordance with Applicants’ presently pending claims.

The Office also asserts that Lee teaches “... machine-readable information being etched through the microparticle.” (emphasis added) *See* Office Action mailed March 24, 2005 at page 2. Applicants disagree with this assertion. Rather, Lee recites “... using a photomask in a conventional photolithographic process to etch a location identification mark on a predetermined layer of each chip.” (emphasis added) *See* Lee at Abstract. Accordingly, Lee does not teach or suggest “... machine-readable information being etched through the microparticle as a pattern of holes.” (emphasis added) *See e.g.*, Claim 66. Moreover, Applicants respectfully point out that in accordance with their specification, a “... hole or notch etched therethrough ...” can be “... back-lit and read by detecting light passing through them, giving far more efficient resolution than relying on direct reflected light.” *See e.g.*, specification at page 5, paragraph 0016 through page 6, paragraph 019. Applicants also note that in accordance with the specification, “[f]urthermore, even when detecting the marks by monitoring relected light, the marks can be far more readily differentiated than markings that are mere surface pits or grooves.” Specification at page 6, paragraph 0019. As such, the etched location mark on a predetermined layer in Lee does not teach or suggest Applicants’ machine-readable information being etched through the microparticle as a pattern of holes.

Moreover, Applicants respectfully submit that Fujiwara does not remedy the deficiencies of Lee. Fujiwara alone or in combination with Lee does not teach or suggest a “microparticle ..., wherein the microparticle is marked with digitally-coded machine-readable information, the machine-readable information being etched through the microparticle as a pattern of holes.” To the contrary, Fujiwara states that “... the present invention provides a laser magnetic immunoassay which comprises a step of labeling an antigen or antibody with micro-particles of a magnetic substance to obtain a magnetic-labeled body ....” Fujiwara at Column 4, lines 31-34.

The Office contends that Fujiwara discloses “... means of making a microparticle of an average size of 0.5 micron” and refers Applicants to col. 37, lines 55+,. *See* Office Action mailed March 24, 2005 at page 2. However, Applicants respectfully submit that the cited disclosure does not teach or suggest a “microparticle ..., wherein the microparticle is marked with digitally-coded machine-readable information”. Rather, at Column 37, lines 55+, Fujiwara recites, “immobilizing a known antibody on the surface of non-magnetic particles.” *See e.g.*, Fujiwara at Column 37, lines 28-58.

The Office further contends that Fujiwara at Column 46, lines 60+ teaches that the “microparticle comprises of silicon dioxide....” Office Action mailed March 24, 2005 at page 3. However, the “silicon chip ... prepared according to Example 21...” has dimensions of 5 mm x 5 mm” and is not referred to as a microparticle. *See* Fujiwara at Example 21.

The Office also says that Fujiwara teaches at Column 34, line 1 that “the microparticle comprises of ... metal.” Applicants respectfully disagree as it appears that Column 34 recites an “ immunoassay apparatus.” Fujiwara at Column 34.

Based on the foregoing, Applicants submit that the Office has failed to establish a *prima facie* case of obviousness of the present application over Lee in combination with Fujiwara because there has been no demonstration any suggestion or motivation to combine these references, there could have been no reasonable expectation of success upon combination, and moreover, these references, when combined, do not teach or suggest all of the claim limitations. In light of these remarks, Applicants respectfully request prompt withdrawal of the rejections under 35 U.S.C. § 103(a) for purported unpatentability over Lee in view of Fujiwara.

II. Rejection under 35 U.S.C. §103(a) over Lee in view of Fujiwara and further in view of LaPerre

Claims 87-94 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Lee (U.S. Patent No. 5,350,715) in view of Fujiwara *et al.* (U.S. Patent No. 5,238,810) further in view of La Perre *et al.* (U.S. Patent No. 4,329,393). Applicants respectfully traverse this rejection.

The Office acknowledges that “Lee as modified by Fujiwara fails to teach means of utilizing the microparticle label/tag for marking a vehicle, or jewelry, credit cards, or valuable items, a coating compound, and means of adhering the microparticle using a transparent lacquer.”

Applicants respectfully submit that based on the foregoing discussion in section I, Lee in view of Fujiwara and further in view of La Perre fail to teach or suggest “... encoded microparticles ... whose thickness is from 0.1 to 5 mm and each marked with digitally coded machine readable information, the machine readable information being etched through each microparticle as a pattern of holes.” Moreover, Applicants direct the attention of the Office to Column 2, lines 20-34, where it is noted that the “visually-readable microparticles” of LaPerre refer to “tiny particles ... which bear a code or indicia of information which is readable by the normal human eye with the aid of a simple magnifying device.” As such, whatever else LaPerre teaches or suggests, it does not teach or suggest “...digitally coded machine readable information ...” as recited by the present claims.

Based on the foregoing, Applicants respectfully request withdrawal of the rejection of Claims 87-94 under 35 U.S.C. §103(a) on the basis of Lee in view of Fujiwara *et al.* and further in view of La Perre *et al.*

### CONCLUSION

In view of the above, each of the presently pending claims is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejections of the claims and to pass this application to issue. The Examiner is encouraged to contact the undersigned at (202) 942-5325 should any additional information be necessary prior to allowance.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Lisa A. Adelson".

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